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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/036,870

12/26/2001

Joseph Smallcomb

7042-4

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7590

01/08/2007

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EXAMINER

NGUYEN, STEVEN H D

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/036,870

Applicant(s)

SMALLCOMB, JOSEPH

Examiner

Steven HD Nguyen

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1,2,4,5,8-10 and 12-15 is/are allowed.
6) ☒ Claim(s) 6 and 7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 objected to because of the following informalities:

As claim 1, line 4, "the average group delay" should be changed to – an average group delay --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 6 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for each branch of the claim such as (A1 –A3 and B1-B3). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. In the claims, the applicant discloses three steps of performing timing recovery wherein the steps are performed in an alternated way by using an or function. However, the specification does not disclose these steps are performed by using an or function.
4. Claim 7 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for each branch of the claim such as (A1, C, A2 and B1, C, B2). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

In the claims, the applicant discloses three steps of performing timing recovery wherein the first step and third step are performed in an alternated way by using an or function. However, the specification does not disclose these steps are performed by using an or function.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita (USP 5608764) in view of Karim (USP 6501810).

Sugita discloses a method and system for determining a timing offset from calculating the Average Group delay over a set of OFDM symbols by using a phasor to estimate an average delay of multi-carrier modulation symbol when the system can not detect a reference signal (Fig 3, Ref 45-51 for determining a timing offset for using to adjust timing at the receiver by calculating timing offset from average group delay using a phasor, Fig 4 and col. 2, lines 23-53); feeding back the timing offset to a demodulator (Fig 3, 23-30 and 52 and 25 “demodulator” are received a feedback signal from Ref 51 and 49); and adjusting the symbol timing based on the Average Group Delay fed back to the demodulator (Fig 3, Refs 25 and 52 adjust timing for demodulator). However, Sugita fails to disclose detecting a lack of sync symbol. In the same field of endeavor, Karim discloses detecting a lack of a synchronization symbol (Col. 2, lines 3-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a method and system for detecting a lack of synchronization symbol as disclosed by Karim into Sugita's system and method. The motivation would have been to provide an accurate synchronization demodulator receiver.

Allowable Subject Matter

7. Claims 1-2, 4-5, 8-10, 12-15 allowed.

Response to Arguments

8. Applicant's arguments filed 10/31/06 have been fully considered but they are not persuasive.

In response to pages 6-7, the applicant states that Sugita fails to disclose phasor for using to determine timing offset by estimating an average delay of symbols. In reply, Sugita discloses if the reference symbol is corrupted then estimating the average delay of the symbols by using a phasor in order to determine a timing offset as stated in the final office action and Karim discloses a method and system for detecting if the sync symbol is in the received frame or not. Since, Sugita suggest a method and system for using phasor to determining timing offset based on the error of reference signal. Therefore, it would have been obvious to one of ordinary skill in the art to apply a method for detecting of lacking SYNC symbol as disclosed by Karim into the teaching of Sugita in order to synchronize the receiver.

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Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

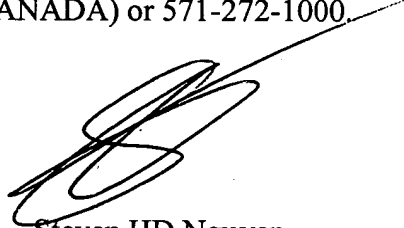
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Steven HD Nguyen', is written over a horizontal line.

Steven HD Nguyen
Primary Examiner
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